

CLAIMS

1. A speaker comprising:
a diaphragm configured to vibrate in a direction crossing a surface, thereby emitting sound waves in the vibration direction of the diaphragm; and
at least one wall member arranged on a sound-wave emission side of the diaphragm,
wherein the wall member and the diaphragm are secured to each other, and the wall member vibrates along with the vibration of the diaphragm.
2. The speaker according to Claim 1, wherein the inner surface of the wall member is formed substantially parallel to the vibration direction of the diaphragm.
3. The speaker according to Claim 1 or 2, wherein the wall member is arranged in the shape of a frame surrounding the sound-wave emission side of the diaphragm.
4. The speaker according to any one of Claims 1 to 3, wherein the wall member has a cross-sectional shape that is substantially the same as the rim shape of the sound-wave emission surface of the diaphragm.
5. The speaker according to any one of Claims 1 to 4, wherein the plurality of wall members are arranged concentrically with respect to the center of the diaphragm.
6. The speaker according to any one of Claims 1 to 5, wherein the height of the wall member is made substantially the same as the maximum amplitude of the diaphragm.

7. A speaker comprising:

a diaphragm configured to vibrate in a direction crossing a surface, thereby emitting sound waves in the vibration direction of the diaphragm; and

a plurality of tubular elements touching and arranged side by side on a sound-wave emission side of the diaphragm, the tubular elements each having an inner surface parallel to the vibration direction of the diaphragm,

wherein the tubular elements and the diaphragm are secured to each other, and the tubular elements vibrate along with the vibration of the diaphragm.

8. The speaker according to Claim 7, wherein the height of the tubular elements is made substantially the same as the maximum amplitude of the diaphragm.